

REMARKS

This is intended as a full and complete response to the Office Action dated August 9, 2006, having a shortened statutory period for response set to expire on November 9, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-33 are pending in the application. Claims 1-33 remain pending following entry of this response. Claims 16, 30, 32 and 33 have been amended. New claim 34 has been added to recite aspects of the invention. Applicants submit that the amendments and new claim do not introduce new matter.

Claim Rejections - 35 U.S.C. § 102

Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,862,703, *Oonk* (hereinafter, "*Oonk*"). Applicants respectfully traverse this rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

In this case *Oonk* does not disclose "each and every element as set forth in the claim." For example, regarding claim 1, and the claims that depend therefrom, *Oonk* does not disclose "replacing at least one row or column containing one or more defective storage cells with a redundant row or column; and replacing at least one word containing one or more defective storage cells with a redundant word without replacing the entire row containing the at least one word."

The Examiner argues that *Oonk* discloses that the "tester provides a computer with enough information to determine how to efficiently allocate spare rows and columns *for replacing rows and columns containing defective memory cells*" (*emphasis added*). Applicants respectfully submit, however, that *Oonk* does not teach, disclose or suggest replacing at least one row or column and at least one word containing one or more defective storage cells, as recited in the claims.

Accordingly, Applicants respectfully submit that *Oonk* does not teach each and every element as set forth in the claim. Therefore, the claims are believed to be allowable, and withdrawal of this rejection is respectfully requested

Claims 16-21, 23-25 and 27-31 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,795,942 *Schwartz* (hereinafter, "*Schwartz*"). Applicants respectfully traverse this rejection.

In this case, *Schwartz* does not disclose "each and every element set forth in the claim." For example, regarding claim 16, *Schwartz* does not disclose "at least one of redundant row or column elements for replacing rows or columns containing defective storage cells; *and at least one block or redundant word elements for replacing words containing defective storage cells without replacing the entire rows containing the words being replaced.*"

The Examiner argues that *Schwartz* discloses redundant cells for replacing rows or columns, and redundant word elements for replacing words without replacing the entire rows (Column 2 line 42 through Column 3, line 3). Applicants respectfully submit however, the cited portion of *Schwartz* teaches that only rows and columns may be replaced, stating:

It is further assumed that rows and columns from the redundant portion can be used to replace defective rows and columns in the regular portion. The method applies a multi-pas evaluation of the regular memory elements, where "element" refers to a row or column. (*Schwartz* column 2, line 47-52).

However, *Schwartz* explicitly states that the redundant elements, available for replacing defective memory elements, are rows and columns. Additionally, *Schwartz* explicitly defines an "element" as a row or column. *Schwartz* goes on to say:

If the number of defects in any element exceeds a threshold value, that element is flagged for replacement by one of the redundant elements (*Schwartz* column 2, line 53-55).

Applicants respectfully submit that *Schwartz* does not disclose teach or suggest redundant word elements *for replacing words without replacing the entire rows*, as claimed in independent claim 16.

Accordingly, Applicants respectfully submit that claim 16, as well as its dependents, are allowable, and withdrawal of this rejection is respectfully requested.

With respect to independent claim 28, *Schwartz* does not disclose a memory built-in self repair circuit with *n* fault registers for storing a corresponding number of faults in each column having an address stored in a column address register. *Schwartz* discloses a single fault count register, EC counter 76, which is reset at each new column test (Figure 3, item-76; Column 9 line 40 through Column 10 line 3). Additionally, *Schwartz* does not disclose storing the fault count and does not disclose multiple fault count registers for storing fault counts, as claimed in independent claim 28.

Accordingly, Applicants respectfully submit that independent claim 28, as well as its dependents, are allowable, and withdrawal of this rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,862,703, *Oonk* in view of Applicants' admitted prior art. Applicants respectfully traverse this rejection.

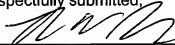
Claims 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,795,942 *Schwartz*. Applicants respectfully traverse this rejection.

Applicants respectfully submit that these claims depend (directly or indirectly) from claims 1 and 16, which Applicants submit are allowable for reasons discussed above. Therefore, these claims are also believed to be allowable, and withdrawal of this rejection is respectfully requested.

Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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